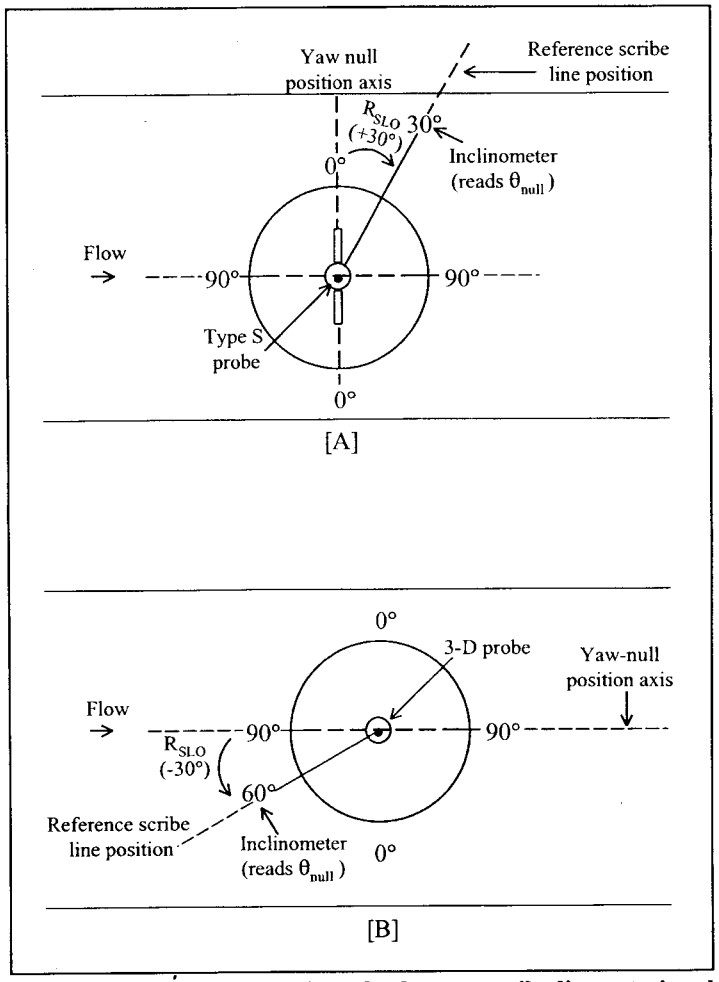
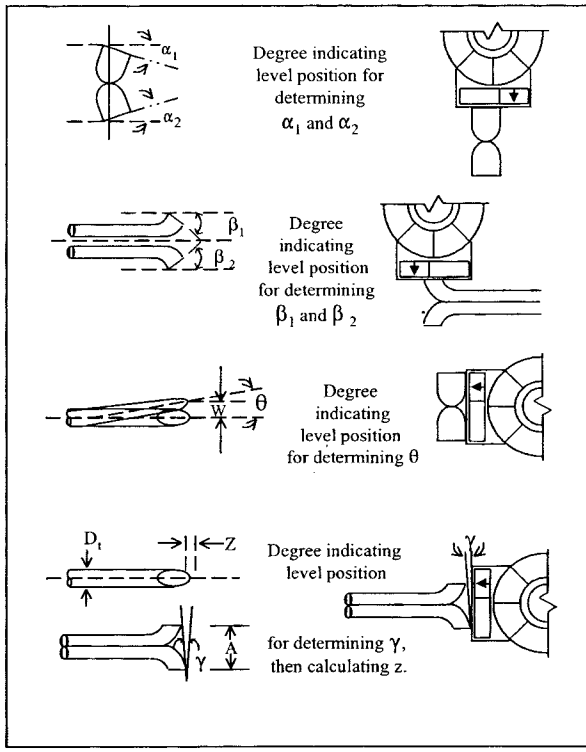


Figure 2G-10. Determination of reference scribe line rotational offset (R_{SLO}) in a horizontal wind tunnel with axial flow for: [A], a Type S probe, and [B], a 3-D probe. In [A] and [B], the probe impact pressure port is aligned with the yaw-null position axis and the inclinometer reads θ_{null}. In [A], the magnitude of R_{SLO} = θ_{null} and the sign is positive (clockwise from yaw-null position axis). In [B], the magnitude of $R_{SLO} = 90° - \theta_{null}$ and the sign is negative (counterclockwise from yaw-null position axis).

Table 2G-1. Type S Probe Inspection Sheet

Note: Method 2 provides the criteria for an acceptably constructed Type S pitot tube. However, the procedure for making the necessary measurements is not specified. One approach is given below.

1. Use a vise with parallel and perpendicular faces. Use an angle-measuring device (analog or digital) for this check.
2. Place the pitot tube in the vise, and level the pitot tube horizontally using the angle-measuring device.
3. Place the angle-measuring device as shown below.
4. Measure distance A, which is P_A plus P_B. Method 2 specifies that $P_A = P_B$, but provides no tolerance for this measurement. Because this measurement is very difficult, it is suggested that $P_A = P_B = A/2$.
5. Measure the external tube diameter (D_t) with a micrometer, machinist's rule, or internal caliper.
6. Record all data as shown on the form below.
7. Calculate dimensions w and z as shown below.



Level and perpendicular?	
Obstruction?	
Damaged?	
α_1 ($-2° \le \alpha_1 \le +2°$)	
α_2 ($-2° \le \alpha_2 \le +2°$)	
β_1 ($-2° \le \beta_1 \le +2°$)	
β_2 ($-2° \le \beta_2 \le +2°$)	
γ	
θ	
$z = A (\tan\gamma)$ [≤ 0.5 mm (0.02 in.)]	
$w = A (\tan\theta)$ [≤ 0.5 mm (0.02 in.)]	
D_t [≥ 9.5 mm (3/8 in.)]	
A	
$A/2D_t$ ($1.05 \le P_A/D_t \le 1.5$) *	
* Recommended dimensions	

QA/QC Check

Completeness_____ Legibility_____ Accuracy_____

Specifications_____ Reasonableness_____

Certification

I certify that the Type S probe ID _____ meets or exceeds all specifications, criteria, and applicable design features.

Certified by:_____ Date:_____